

I claim:

1. An apparatus comprising:
a specimen plate having at least a first reagent deposited thereon; and
an atomizer that delivers a spray of a second atomized reagent toward said specimen plate, wherein a velocity of liquid droplets comprising said second atomized reagent is no more than about 3 meters per second.
2. The apparatus of claim 1 further comprising a mask that is disposed between said atomizer and said specimen plate; said mask defining a plurality of openings through which said second atomized reagent passes, the passed reagent being received in discrete regions on said specimen plate.
3. The apparatus of claim 1 further comprising a controlled voltage source that is electrically connected to said atomizer, said mask and a electrically-conductive sub-plate that is disposed beneath said specimen plate, wherein said atomizer is positively charged, said sub-plate is negatively charged, and said mask is positively charged, but said positive charge on said mask is less than the positive charge on said atomizer.
4. The apparatus of claim 1 further comprising a second atomizer that delivers a spray of a third atomized reagent toward said specimen plate, wherein said third atomized reagent is different than said second atomized reagent.
5. The apparatus of claim 1 further comprising an environmental enclosure, wherein said atomizer and said specimen plate are disposed within said environmental enclosure.
6. The apparatus of claim 1 further comprising a positioner that is mechanically engaged to said specimen plate.
7. The apparatus of claim 1, further comprising an imaging system, wherein said imaging system images target events that occur in said liquid droplets on said specimen plate.

8. An imaging system comprising:

a detector for detecting electromagnetic radiation, wherein said electromagnetic radiation is emitted when target events occur, said target events triggered by reagent deposited on a specimen plate; and

an atomizer that delivers said reagent to said specimen plate as a spray of atomized liquid.

9. The imaging system of claim 8 further comprising a positioner; wherein said positioner moves said specimen plate between a first position in which said specimen plate receives said atomized liquid and a second position in which said detector detects said target events.

10. The imaging system of claim 8 further comprising an environmental enclosure, wherein said detector and said atomizer are disposed within said environmental enclosure.

11. The imaging system of claim 8 wherein said detector detects visible spectrum radiation.

12. The imaging system of claim 11 further comprising an excitation radiation source that delivers excitation radiation to said reagent on said specimen plate.

13. The imaging system of claim 8 wherein said detector detects infrared spectrum radiation.

14. The imaging system of claim 8 further comprising a mask that is disposed between said specimen plate and said atomizer; said mask defining a plurality of openings through which said atomized liquid passes and is received by said specimen plate.

15. The imaging system of claim 14 further comprising a controlled voltage source that is electrically connected to said atomizer, said mask and an electrically-conductive sub-plate that is disposed beneath said specimen plate.

16. A method comprising:

atomizing a reagent;

delivering said atomized reagent to a specimen plate; and

detecting a target event triggered by said reagent.

17. The method of claim 16 wherein the step of atomizing comprises using ultrasonic vibration to form micro-droplets of said reagent.

18. The method of claim 16 wherein the step of delivering comprises passing said atomized reagent through a mask.

19. The method of claim 18 wherein the step of delivering further comprises electrostatically focusing said reagent by applying a potential to said mask, said atomized reagent, and an electrically conductive sub-plate that is disposed beneath said specimen plate.

20. The method of claim 16 wherein the step of detecting comprises detecting visible spectrum radiation.

21. The method of claim 16 wherein the step of detecting comprises detecting infrared spectrum radiation.

22. The method of claim 16 further comprising:

positioning said specimen plate in a first position to receive said atomized reagent; and

positioning said specimen plate in a second position to detect said target event.